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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,542	07/20/2001	James J. Alwan	2269-7134.1US(95-0654.01/	3046
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TRASK BRITT				
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SALT LAKE CITY, UT 84110				
EXAMINER				
GUHARAY, KARABI				
ART UNIT		PAPER NUMBER		
2879				
MAIL DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/910,542

Applicant(s)

ALWAN ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE, filed on 2/22/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-14, 16-18, 31-34 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-14, 16-18, 31-34 and 36-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/22/07 has been entered.

Response to Amendment

Amendment, filed on 1/29/07 has been considered and entered.
Oath and declaration, filed on 1/29/07, stating that the application and the Westphal et al. (US 5,656,886) are currently owned by the same party has been acknowledged and removes the rejections of claims over Westphal et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-14, 16-18, 31-34 & 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 5,557,159).

Regarding claims 11 & 17, Taylor et al. disclose a cathode (emitter plate 60) for a field emission device (Fig 3 & 4), comprising a substrate (66), made of glass, a cap layer (64 & 68) disposed on the substrate, the cap layer comprising a cap material layer (64)

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made of silicon dioxide and an anti-reflective coating layer 68 (layer 68 is made of amorphous silicon, which is an anti-reflecting material), a conductive layer (78) overlying the cap layer and an array of emitter tips (70) protruding from the conductive layer (78, lines 22-31 of column 6, and lines 5-40 of column 7).

Regarding claims 31 & 37, Tayler et al. disclose a cathode (emitter plate 60) for a field emission device (Fig 3 & 4), comprising a substrate (66), made of glass, a cap layer (64 & 68) disposed on the substrate, the cap layer comprising a cap material layer (64) made of silicon dioxide and a light blocking layer 68 (layer 68 is made of amorphous silicon, which is light blocking material), a conductive layer (78) overlying the cap layer and an array of emitter tips (70) protruding from the conductive layer (78, lines 22-31 of column 6, and lines 5-40 of column 7).

But Taylor et al. fail to disclose silicon carbide or polycrystalline carbon as the material for cap layer while disclose silicon dioxide as the material.

However, *silicon dioxide* and *silicon carbide* are art recognized equivalent material widely used as cap material for the glass substrate for blocking sodium diffusion from the glass.

Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to use silicon nitride instead of silicon dioxide as the cap material in the device of Taylor et al., since selection of known material for known purpose is within the skill of art.

Regarding claims 12 & 32, Though Taylor et al. do not specifically mention the substrate glass is a soda lime glass, however, mentioned a silicon dioxide layer which is

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generally provided on the soda lime glass to prevent migration of sodium it is inherent that Taylor used soda lime glass for the substrate.

Referring to claims 13, 18, 33, 38, it is noted that the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Referring to claims 14 & 34, Taylor et al. disclose a cathode substrate including a cap layer 64. However, Taylor et al. discloses a thickness of 500nm.

It would have been obvious to experiment a suitable range of thickness for the cap layer 64, because changes in size are generally considered to be within the skill of the art.

Regarding claims 16 and 36, Taylor et al. disclose that the substrate is made of glass, however, plastic material is widely used for substrate in a display device. Glass and plastic are art recognized equivalent material for the substrate; further plastic materials are suitable for lightweight as well as for making flexible display.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use plastic material as the substrate since selection of, known material for known purposes is considered to be within the skill of the art.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to

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applicant's disclosure : JP 02-181725 patent teaches that silicon carbide material layer is used as barrier layer over soda lime glass substrate.

Response to Arguments

Applicant's arguments filed 1/29/07, regarding rejection of claims over Tayer et al. have been fully considered but they are not persuasive.

Applicant specifically argued that Taylor et al. does not disclose "silicon carbide or polycrystalline carbon as the material for the cap layer".

Examiner agrees, instead Taylor et al. disclose silicon dioxide as the cap material. Applicant further argued that since Tayer et al. fail to teach or suggest every element Taylor cannot render claims obvious.

However, at this point, examiner respectfully disagrees.

Since, it is well known in the art that silicon carbide is used as a barrier layer over soda lime glass substrate; so choosing a known material for known purposes is within the skill of art. Thus it is obvious for an ordinary skill in the art to replace silicon dioxide by silicon carbide since both are suitable and known material for cap layer.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is 571-272-2452. The examiner can normally be reached on Monday-Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on 571-272-2457. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K. Guharay
Karabi Guharay
Primary Examiner
Art Unit 2879

5/8/07